Ideation Phase
Literature Survey

Date	17 September 2022
Team ID	PNT2022TMID30216
Project Name	Plasma Donor Application

Paper 1: Blood donor app usage behaviour and perceptions: Considerations for a blood donation app (Andrea Potgieter, May 2022)

This article aimed to determine whether South African blood donor app usage behaviour and perceptions were conducive to introduce a blood donation app, and what these behaviours and perceptions could reveal, to support South African Blood Donation Organizations in their recruitment and engagement endeavours. The research problem discussed in this article sought to highlight the app usage behaviour of blood donors, and their perceptions about a proposed blood donation app. forming part of a larger sequential mixed-methods study, the data presented in this article were gathered through a quantitative online questionnaire involving 2154 South Africans respondents. The value of this research lies in the insight gained into the behaviour and perceptions of South African blood donors, which can inform the conceptualization and design of a blood donation app, thereby improving its efficacy and subsequently supporting the strategy of employing such a technology to increase blood donation.

Paper 2: Evaluation of the Wateen App in the Blood-Donation Process in Saudi Arabia (Tourkiah Alessa, April 2022)

The aim of this research was to evaluate the usability, user satisfaction and perceived usefulness of this blood-donation app in Saudi Arabia. A mixed-method study was conducted comprising a quantitative questionnaire with donor and qualitative semi-structured interviews with healthcare professionals. Descriptive analysis was used for the quantitative data and a thematic approach for the qualitative data. Quantitative data analysis was conducted using SPSS software package 19 to calculate descriptive statistics.This blood-donation app is highly usable and acceptable among donors and healthcare professionals in Saudi Arabia, offering several benefits. Some accessibility issues were identified, along with possibilities for improving accessibility and expanding the app's functionality.

**Paper 3: Location-based Mobile Application for Blood Donor Search
(Fernando Alex Sierra-Linan, January 2022)**

The research proposes the development of a location-based mobile application for blood donor search (DONAPE), for which the mobile application provides a direct location-based channel between blood seekers and blood donation centers. Achieving to increase the number of donors, improve the place of origin (geographical location) of donors and improve the search time. They chose to use the agile Scrum method to develop the project prototype. This method has 5 phases: initiation, planning and estimation, implementation, review and retrospective and launch, for the development of this project. In web and mobile applications were developed to manage blood donation, allowing to register, schedule, receive notifications and access information, synchronizing blood donation centers with emergency centers, to verify the availability of blood needed and to send a request to the nearest blood donation center.

Paper 4: A Cross-Platform Blood Donation Application with a Real-Time, Intelligent, and Rational Recommendation System (Rashik Rahman, September 2021)

In this research work, they have designed a real-time, intelligent, and rational recommendation system using sentiment analysis of the user's feedback, response rate of the donor, and the current geo-location information and finally develop a cross-platform application for blood collection and distribution system. To process and generate features from the user feedback, they have designed a Bi-directional LSTM-based deep learning model. They chose the flutter framework to develop our cross platform applications. Firebase, a Google platform for mobile and web applications, has been used in the proposed application for authentication man. The quality of the recommendation of the potential donors has significantly improved. Moreover, they have conducted rigorous requirement analysis from real users and evaluated the performance of the application through both indoor and outdoor testing.

Paper 5: Preferences and features of a blood donation smart phone app: A multicenter mixed-methods study in Riyadh, Saudi Arabia (Afaf Ali Batis, March 2021)

To identify the features and preferences of a blood donation smart phone app for blood donation centers and donors in Riyadh City, Saudi Arabia. This is a mixed-method study composed of a quantitative cross-sectional part (with donors, using a self-administered questionnaire), and a qualitative/quantitative part (with blood donation center staff, using semi-structured interviews). Data were collected between 15 November 2017 and 5 February 2018, from four blood donation centers in Riyadh City, Saudi Arabia. A descriptive analysis was used for the quantitative part and a thematic approach for the qualitative part.